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Ephemeris for Physical Observations

Greenwich Noon.	P.	L—O.	B.	Λ—L.	*B.*	Q.	E.
1900.							
Aug. 24	338°·43	193°·51	+ 7°·32	−28°·06	−6°·74	274°·46	31°·31
26	339·15	194·69	7·85	28·27	6·31	275·03	31·55
28	339·87	195·87	8·37	28·50	5·88	275·59	31·79
30	340·60	197·05	8·89	28·74	5·45	276·14	32·02
Sept. 1	341·33	198·23	9·40	28·96	5·02	276·68	32·25
3	342·06	199·40	+ 9·91	−29·19	−4·58	277·21	32·48
5	342·80	200·57	10·40	29·43	4·15	277·73	32·70
7	343·54	201·74	10·89	29·65	3·72	278·25	32·92
9	344·29	202·91	11·37	29·90	3·28	278·76	33·14
11	345·04	204·08	11·84	30·15	2·85	279·26	33·36
13	345·79	205·25	+12·30	−30·40	−2·42	279·75	33·57
15	346·54	206·41	12·76	30·64	1·99	280·24	33·78
17	347·29	207·57	13·21	30·89	1·56	280·72	33·99
19	348·04	208·73	13·65	31·14	1·14	281·19	34·20
21	348·79	209·89	14·08	31·39	0·71	281·65	34·40
23	349·55	211·05	+14·50	−31·65	−0·28	282·10	34·60
25	350·30	212·20	14·92	31·89	+0·14	282·55	34·80
27	351·05	213·35	15·33	32·15	0·56	282·98	34·99
29	351·80	214·50	15·73	32·41	0·98	283·40	35·18
Oct. 1	352·55	215·65	16·11	32·66	1·40	283·81	35·36
3	353·29	216·80	+16·48	−32·92	+1·82	284·21	35·54
5	354·03	217·94	16·85	33·17	2·24	284·59	35·71
7	354·77	219·08	17·21	33·43	2·65	284·97	35·87
9	355·51	220·22	17·55	33·68	3·07	285·34	36·03
11	356·24	221·35	17·89	33·92	3·48	285·70	36·18
13	356·97	222·48	+18·22	−34·17	+3·89	286·05	36·33
15	357·69	223·60	18·54	34·41	4·30	286·38	36·48
17	358·41	224·71	18·84	34·65	4·70	286·70	36·62
19	359·13	225·81	19·13	34·87	5·10	287·02	36·75
21	359·84	226·91	19·42	35·10	5·50	287·33	36·87
23	0·55	228·01	+19·69	−35·33	+5·90	287·62	36·99
25	1·24	229·10	19·96	35·55	6·30	287·90	37·10
27	1·92	230·19	20·22	35·76	6·69	288·17	37·20
29	2·60	231·27	20·46	35·97	7·08	288·43	37·29
31	3·27	232·34	+20·69	−36·17	+7·47	288·68	37·37

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of Mars, 1900-01. By A. C. D. Crommelin.

Greenwich Noon.	⊙	Light Time.	Appar. Diam.	Defect of Illumination.	Central Meridian.	Passage of Zero Meridian.	
				q	ω_0		
1900.	°	m	"	"	°	h m	h m
Aug. 24	344 00	16·042	4·98	0·36	336·80	1 35·41	2 15·22
26		15·956	5·00	0·37	317·42	2 55·03	3 34·84
28		15·868	5·03	0·37	298·05	4 14·65	4 54·46
30		15·779	5·06	0·38	278 68	5 34·27	6 14·08
Sept. 1	348·17	15·689	5·09	0·39	259·31	6 53·89	7 33·70
3		15·597	5·12	0·40	239·94	8 13·51	8 53·32
5		15.503	5·15	0·41	220·57	9 33·12	10 12·92
7		15·408	5·18	0·42	201·21	10 52·71	11 32·50
9	352·28	15·311	5·21	0·43	181·85	12 12·29	12 52·08
11		15·213	5·25	0·44	162·49	13 31·87	14 11·66
13		15·113	5·28	0·45	143·13	14 51·44	15 31·23
15		15·012	5·32	0·46	123·77	16 11·01	16 50·79
17	356·33	14·909	5·35	0·46	104·42	17 30·56	18 10·33
19		14·806	5·39	0·47	85·07	18 50·10	19 29·86
21		14·699	5·43	0·48	65·72	20 9·61	20 49·36
23		14·590	5·47	0·49	46·37	21 29·11	22 8·86
25	0·34	14·480	5·51	0·50	27·03	22 48 61	23 28·36
27		14·368	5·56	0·51	7 69	...	0 8·10
29		14·255	5·60	0·51	348·35	0 47·85	1 27·61
Oct. 1		14·141	5·65	0·52	329·01	2 7·35	2 47·10
3	4·29	14·025	5·69	0·53	309·68	3 26·83	4 6·57
5		13·908	5·74	0·54	290·35	4 46·29	5 26·02
7		13·789	5·79	0·55	271·02	6 5·73	6 45·44
9		13·668	5·84	0·56	251·70	7 25·14	8 4·84
11	8·20	13·546	5·89	0·57	232·38	8 44·54	9 24·23
13		13·423	5·95	0·58	213·07	10 3·92	10 43·59
15		13·298	6·00	0·59	193·76	11 23·27	12 2·94
17		13·172	6·06	0·59	174·46	12 42·60	13 22·26
19	12·06	13·045	6·12	0 60	155·16	14 1·92	14 41·56
21		12·915	6·18	0·61	135·87	15 21·20	16 0·82
23		12·784	6·24	0·62	116·59	16 40·44	17 20·04
25		12·652	6·31	0·63	97·32	17 59·64	18 39·22
27	15·88	12·519	6·38	0·64	78·06	19 18·78	19 58·35
29		12·384	6·45	0·65	58·80	20 37·91	21 17·46
31		12·248	6·52	0·66	39·55	21 57·01	22 36·55

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Greenwich Noon.	P.	L−O.	B.	A−L.	*B*.	Q.	E.
1900.	°	°	°	°	°	°	°
Nov. 2	3·93	233·40	+20·91	−36·36	+ 7·85	288·91	37·43
4	4·58	234·45	21·13	36·54	8·23	289·13	37·49
6	5·23	235·49	21·33	36·71	8·61	289·35	37·54
8	5·87	236·51	21·51	36·86	8·99	289·56	37·58
10	6·51	237·52	21·68	37·00	9·36	289·76	37·61
12	7·14	238·52	+21·85	−37·14	+ 9·73	289·94	37·62
14	7·71	239·51	22·01	37·26	10·10	290·11	37·63
16	8·30	240·49	22·15	37·37	10·47	290·27	37·61
18	8·88	241·44	22·29	37·46	10·83	290·42	37·58
20	9·45	242·38	22·42	37·53	11·19	290·56	37·53
22	10·01	243·31	+22·53	−37·59	+11·54	290·69	37·47
24	10·55	244·23	22·64	37·64	11·89	290·80	37·41
26	11·08	245·12	22·74	37·67	12·24	290·90	37·32
28	11·59	245·99	22·82	37·67	12·58	290·99	37·21
30	12·10	246·84	22·89	37·66	12·92	291·08	37·08
Dec. 2	12·58	247·68	+22·96	−37·63	+13·26	291·15	36·93
4	13·04	248·50	23·02	37·57	13·60	291·21	36·76
6	13·49	249·28	23·08	37·48	13·93	291·26	36·56
8	13·92	250·03	23·12	37·36	14·25	291·30	36·35
10	14·34	250·75	23·15	37·21	14·57	291·33	36·13
12	14·74	251·44	+23·18	−37·02	+14·89	291·35	35·88
14	15·12	252·10	23·20	36·81	15·21	291·36	35·58
16	15·48	252·73	23·22	36·56	15·52	291·35	35·25
18	15·82	253·33	23·23	36·29	15·83	291·33	34·89
20	16·14	253·89	23·23	35·98	16·13	291·30	34·50
22	16·44	254·42	+23·22	−35·63	+16·43	291·26	34·09
24	16·71	254·91	23·20	35·24	16·72	291·20	33·64
26	16·96	255·36	23·17	34·80	17·01	291·13	33·17
28	17·18	255·78	23·14	34·34	17·30	291·05	32·65
30	17·38	256·15	23·10	33·82	17·58	290·96	32·10
1901							
Jan. 1	17·56	256·47	+23·06	−33·26	+17·86	290·86	31·50
3	17·72	256·74	23·02	32·64	18·14	290·74	30·88
5	17·86	256·98	22·98	31·99	18·41	290·59	30·21
7	17·96	257·16	22·93	31·27	18·67	290·41	29·49
9	18·02	257·29	22·87	30·51	18·93	290·20	28·73
11	18·06	257·36	+22·80	−29·69	+19·19	289·95	27·92
13	18·09	257·38	+22·73	−28·80	+19·44	289·67	27·06

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Greenwich Noon.		⊙	Light Time.	Appar. Diam.	Defect of Illumination. q	Central Meridian. ω_0	Passage of Zero Meridian.			
1900.		°	m	″	″	°	h	m	h	m
Nov.	2		12·111	6·59	0·67	20·31	23	16·08	23	55·60
	4	19·65	11·973	6·67	0·68	1·07	...		0	35·11
	6		11·835	6·74	0·69	341·85	1	14·59	1	54·06
	8		11·695	6·82	0·70	322·64	2	33·52	3	12·96
	10		11·555	6·91	0·71	303·44	3	52·40	4	31·81
	12	23·40	11·413	6·99	0·72	284·26	5	11·22	5	50·61
	14		11·270	7·08	0·73	265·09	6	29·99	7	9·36
	16		11·126	7·17	0·74	245·94	7	48·70	8	28·03
	18		10·982	7·27	0·74	226·80	9	7·35	9	46·65
	20	27·10	10·837	7·37	0·75	207·68	10	25·93	11	5·19
	22		10·691	7·47	0·75	188·57	11	44·43	12	23·64
	24		10·544	7·57	0·76	169·48	13	2·83	13	42·00
	26		10·397	7·68	0·76	150·41	14	21·16	15	0·32
	28	30·77	10·249	7·79	0·77	131·36	15	39·45	16	18·56
	30		10·101	7·90	0·77	112·33	16	57·63	17	36·68
Dec.	2		9·954	8·02	0·78	93·31	18	15·70	18	54·69
	4		9·806	8·14	0·78	74·31	19	33·65	20	12·58
	6	34·42	9·658	8·26	0·79	55·35	20	51·50	21	30·33
	8		9·510	8·39	0·79	36·43	22	9·14	22	47·93
	10		9·362	8·52	0·80	17·53	23	26·70	...	
	12		9·214	8·66	0·80	358·65	0	5·45	0	44·18
	14	38·03	9·067	8·80	0·81	339·80	1	22·89	2	1·56
	16		8·921	8·95	0·81	321·00	2	40·18	3	18·73
	18		8·776	9·10	0·81	302·23	3	57·24	4	35·73
	20		8·631	9·25	0·80	283·49	5	14·18	5	52·61
	22	41·62	8·487	9·41	0·80	264·78	6	31·00	7	9·36
	24		8·343	9·57	0·79	246·10	7	47·68	8	25·97
	26		8·200	9·73	0·79	227·47	9	4·17	9	42·33
	28		8·059	9·90	0·78	208·89	10	20·44	10	58·52
	30	45·19	7·920	10·08	0·78	190·34	11	36·55	12	14·55
1901 Jan.	1		7·784	10·25	0·78	171·82	12	52·50	13	30·42
	3		7·650	10·43	0·77	153·35	14	8·29	14	46·13
	5		7·517	10·62	0·75	134·93	15	23·88	16	1·54
	7	48·74	7·388	10·81	0·73	116·57	16	39·15	17	16·71
	9		7·260	10·99	0·71	98·26	17	54·22	18	31·68
	11		7·134	11·19	0·68	80·00	19	9·09	19	46·45
	13		7·012	11·38	0·65	61·78	20	23·76	21	1·02

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Greenwich Noon.	P.	L−O.	B.	A−L.	*B.*	Q.	E.
1901.							
Jan. 15	18°·09	257°·37	+22°·66	−27°·89	+19°·69	289°·35	26°·15
17	18·04	257·29	22·58	26·91	19·93	289·00	25·19
19	17·97	257·14	22·51	25·86	20·17	288·62	24·18
21	17·86	256 94	22·43	24·76	20·40	288·20	23·12
23	17·73	256·69	22·35	23·60	20·62	287·75	22·01
25	17·57	256·39	+22·27	−22·40	+20·84	287·25	20·84
27	17·38	256·01	22·18	21·11	21·06	286·68	19·63
29	17·16	255·57	22·09	19·75	21·27	286·02	18·37
31	16·90	255·09	22·00	18·35	21·48	285·24	17·06
Feb. 2	16·59	254·56	21·90	16·91	21·68	284·28	15·71
4	16·27	253·99	+21·80	−15·42	+21·88	282·99	14·32
6	15·93	253·36	21·69	13·87	22·07	282	12·89
8	15·56	252·68	21·58	12·26	22·26	280	11·42
10	15·15	251·97	21·47	10·63	22·44	277	9·92
12	14·73	251·23	21·36	8·97	22·62	274	8·42
14	14·29	250·47	+21·25	− 7·28	+22·79	270	6·92
16	13·83	249·67	21·13	5·55	22·95	264	5·45
18	13·35	248·85	21·01	3·80	23·11	252	4·08
20	12·87	248·00	20·90	2·01	23·26	231	3·01
22	12·38	247·16	20·79	− 0·23	23·41	197	2·63
24	11·89	246·33	+20·69	+ 1·54	+23·56	166	3·21
26	11·40	245·50	20·59	3·31	23·70	147	4·38
28	10·91	244·69	20.49	5·07	23·84	136	5·78
Mar. 2	10·43	243·89	20·40	6·81	23·97	130	7·27
4	9·97	243·10	20·30	8·55	24·09	126	8·78
6	9·52	242·35	+20·21	+10·25	+24·20	124	10·29
8	9·10	241·64	20·14	11·91	24·30	122	11·79
10	8·69	240·96	20·08	13·54	24·40	120	13·27
12	8·30	240·32	20·02	15·13	24·49	118·85	14·70
14	7·93	239·72	19·97	16·69	24·58	117·65	16·12
16	7·58	239·18	+19 93	+18·18	+24·66	116·68	17·48
18	7·28	238·69	19·91	19·63	24·74	115·88	18·79
20	7·01	238·25	19·90	21·03	24·82	115·18	20·05
22	6·77	237·85	19·90	22·39	24·89	114·53	21·29
24	6·56	237·52	19·91	23·69	24·95	113·97	22·45
26	6·38	237·25	+19·93	+24·92	+25·01	113·48	23·57
28	6·23	237·03	19·97	26·11	25·06	113·06	24·64
30	6·12	236·86	+20·02	+27·25	+25·10	112·70	25·65

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Greenwich Noon.	⊙	Light Time.	Appar. Diam.	Defect of Illumination. q	Central Meridian. ω_0	Passage of Zero Meridian.			
1901.	°	m	″	″	°	h	m	h	m
Jan. 15	52·28	6·894	11·58	0·61	43·62	21	38·21	22	15·37
17		6·779	11·78	0·57	25·52	22	52·46	23	29·48
19		6·668	11·97	0·53	7·47	...		0	6·43
21		6·561	12·17	0·49	349·47	0	43·30	1	20·11
23	55·80	6·458	12·36	0·45	331·53	1	56·85	2	33·52
25		6·361	12·55	0·41	313·65	3	10·11	3	46·65
27		6·269	12·73	0·37	295·85	4	23·15	4	59·59
29		6·182	12·91	0·33	278·09	5	35·98	6	12·32
31	59·31	6·101	13·08	0·29	260·37	6	48·61	7	24·86
Feb. 2		6·024	13·25	0·25	242·70	8	1·05	8	37·19
4		5·954	13·41	0·21	225·07	9	13·25	9	49·27
6		5·892	13·55	0·18	207·51	10	25·26	11	1·21
8	62·81	5·836	13·68	0·14	189·99	11	37·12	12	12·99
10		5·784	13·80	0·11	172·49	12	48·82	13	24·61
12		5·740	13·91	0·08	155·02	14	0·36	14	36·07
14		5·704	14·00	0·05	137·57	15	11·78	15	47·46
16	66·30	5·676	14·07	0·03	120·16	16	23·12	16	58·76
18		5·656	14·12	0·01	102·78	17	34·39	18	10·01
20		5·642	14·15	0·00	85·40	18	45·62	19	21·22
22		5·634	14·17	0·00	68·03	19	56·82	20	32·42
24	69·80	5·634	14·17	0·00	50·64	21	8·03	21	43·67
26		5·643	44·15	0·01	33·25	22	19·33	22	55·01
28		5·660	14·10	0·02	15·84	23	30·71	...	
Mar. 2		5·684	14·04	0·04	358·41	0	6·43	0	42·17
4	73·29	5·715	13·97	0·07	340·97	1	17·93	1	53·72
6		5·752	13·88	0·11	323·52	2	29·54	3	5·41
8		5·797	13·77	0·15	306·04	3	41·31	4	17·27
10		5·850	13·65	0·19	288·49	4	53·27	5	29·34
12	76·78	5·908	13·51	0·23	270·89	6	5·45	6	41·62
14		5·972	13·36	0·28	253·24	7	17·83	7	54·10
16		6·041	13·21	0·33	235·54	8	30·40	9	6·76
18		6·118	13·05	0·38	217·79	9	43·19	10	19·67
20	80·28	6·200	12·88	0·42	199·99	10	56·21	11	32·81
22		6·286	12·71	0·46	182·14	12	9·48	12	46·21
24		6·376	12·53	0·50	164·24	13	23·00	13	59·85
26		6·470	12·34	0·54	146·28	14	36·76	15	13·73
28	83·79	6·570	12·15	0·57	128·26	15	50·75	16	27·83
30		6·675	11·96	0·60	110·19	17	4·97	17	42·16

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Greenwich Noon.		P.	L—O.	B.	A—L.	*B.*	Q.	E.
1901. Apr.	1	6°·05	236°·74	+20°·09	+28°·3	+425°·13	112°·36	26°·61
	3	6·01	236·67	20·15	29·38	25·16	112·06	27·53
	5	5·99	236·65	20·22	30·38	25·18	111·80	28·40
	7	6·01	236·68	20·31	31·32	25·20	111·58	29·23
	9	6·05	236·76	20·41	32·22	25·21	111·39	30·00
	11	6·12	236·89	+20·52	+33·06	+25·21	111·23	30·74
	13	6·23	237·07	20·64	33·86	25·21	111·10	31·43
	15	6·38	237·30	20·77	34·61	25·20	111·00	32·08
	17	6·55	237·57	20·91	35·32	25·18	110·92	32·69
	19	6·74	237·89	21·05	35·98	25·16	110·86	33·26
	21	6·96	238·24	+21·20	+36·61	+25·13	110·81	33·79
	23	7·20	238·63	21·36	37·20	25·10	110·78	34·29
	25	7·45	239·06	21·52	37·75	25·06	110·76	34·76
	27	7·73	239·53	21·68	38·26	25·01	110·76	35·19
	29	8·03	240·03	21·85	38·74	24·96	110·79	35·59
May	1	8·36	240·57	+22·02	+39·18	+24·90	110·83	35·95
	3	8·70	241·14	22·20	39·60	24·83	110·88	36·29
	5	9·06	241·73	22·38	39·99	24·75	110·93	36·61
	7	9·44	242·37	22·56	40·34	24·67	110·98	36·90
	9	9·83	243·03	22·74	40·66	24·58	111·03	37·16
	11	10·24	243·73	+22·93	+40·95	+24·49	111·08	37·39
	13	10·67	244·46	23·12	41·21	24·39	111·14	37·61
	15	11·11	245·21	23·30	41·45	24·28	111·21	37·80
	17	11·56	245·99	23·48	41·66	24·17	111·29	37·97
	19	12·03	246·80	23·66	41·83	24·05	111·37	38·13
	21	12·51	247·63	+23·83	+41·99	+23·92	111·46	38·28
	23	13·00	248·48	24·00	42·13	23·78	111·56	38·41
	25	13·49	249·35	24·16	42·25	23·64	111·65	38·50
	27	14·00	250·24	24·33	42·34	23·49	111·74	38·56
	29	14·53	251·16	24·49	42·41	23·34	111·84	38·62
	31	15·06	252·11	+24·65	+42·44	+23·18	111·94	38·67
June	2	15·60	253·08	24·80	42·46	23·01	112·04	38·71
	4	16·15	254·06	24·95	42·46	22·84	112·14	38·74
	6	16·71	255·06	25·09	42·44	22·66	112·23	38·75
	8	17·27	256·08	25·22	42·40	22·48	112·33	38·75
	10	17·84	257·12	+25·35	+42·35	+22·29	112·42	38·73
	12	18·41	258·18	25·47	42·27	22·09	112·51	38·70
	14	18·98	259·25	+25·58	+42·19	+21·88	112·60	38·67

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Greenwich Noon.		Light Time.	Appar. Diam.	Defect of Illumination.	Central Meridian.	Passage of Zero Meridian.			
				q	ω_0				
1901.	°	m	"	"	°	h	m	h	m
Apr. 1		6·784	11·77	0·63	92·07	18	19·41	18	56·72
3		6·894	11·58	0·66	73·90	19	34·08	20	11·50
5	87·31	7·006	11·39	0·69	55·67	20	48·97	21	26·50
7		7·124	11·20	0·71	37·39	22	4·08	22	41·72
9		7·244	11·02	0·74	19·06	23	19·41	23	57·16
11		7·366	10·84	0·76	0·68		...	0	34·96
13	90·84	7·490	10·66	0·78	342·25	1	12·81	1	50·71
15		7·614	10·48	0·80	323·79	2	28·66	3	6·66
17		7·741	10·30	0·82	305·28	3	44·70	4	22·78
19		7·870	10·13	0·84	286·73	5	0·91	5	39·08
21	94·39	8·001	9·96	0·85	268·13	6	17·30	6	55·56
23		8·134	9·80	0·86	249·48	7	33·87	8	12·22
25		8·269	9·65	0·87	230·79	8	50·61	9	29·04
27		8·404	9·49	0·87	212·07	10	7·51	10	46·01
29	97·95	8·540	9·34	0·88	193·32	11	24·55	12	3·12
May 1		8·676	9·20	0·88	174·54	12	41·72	13	20·36
3		8·813	9·06	0·88	155·73	13	59·04	14	37·75
5		8·950	8·92	0·89	136·88	15	16·50	15	55·29
7	101·54	9·088	8·78	0·89	118·00	16	34·12	17	12·97
9		9·226	8·65	0·88	99·08	17	51·86	18	30·78
11		9·364	8·52	0·88	80·13	19	9·74	19	48·73
13		9·502	8·40	0·88	61·15	20	27·75	21	6·80
15	105·15	9·640	8·28	0·87	42·15	21	45·88	22	24·98
17		9·778	8·16	0·87	23·12	23	4·11	23	43·27
19		9·916	8·05	0·87	4·07		...	0	22·45
21		10·054	7·94	0·86	344·99	1	1·66	1	40·90
23	108·79	10·192	7·83	0·86	325·89	2	20·16	2	59·45
25		10·329	7·73	0·85	306·76	3	38·77	4	18·12
27		10·466	7·63	0·84	287·61	4	57·48	5	36·86
29		10·602	7·53	0·83	268·44	6	16·26	6	55·69
31	112·45	10·738	7·43	0·82	249·25	7	35·14	8	14·61
June 2		10·873	7·34	0·81	230·04	8	54·10	9	33·61
4		11·006	7·25	0·80	210·81	10	13·14	10	52·69
6		11·139	7·16	0·79	191·56	11	32·26	12	11·85
8	116·15	11·271	7·08	0·78	172·29	12	51·46	13	31·10
10		11·403	7·00	0·77	153·01	14	10·76	14	50·44
12		11·534	6·92	0·76	133·70	15	30·14	16	9·86
14		11·664	6·84	0·75	114·38	16	49·60	17	29·34

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Greenwich Noon.		P.	L – O.	B.	A – L.	*B*.	Q.	E.
1901.		°	°	°	°	°	°	°
June	16	19·55	260·34	+25·68	+42·08	+21·67	112·68	38·62
	18	20·13	261·44	25·77	41·96	21·45	112·75	38·56
	20	20·70	262·55	25·86	41·83	21·23	112·82	38·49
	22	21·28	263·68	25·93	41·68	21·00	112·89	38·41
	24	21·86	264·82	26·00	41·52	20·77	112·95	38·32
	26	22·44	265·98	+26·06	+41·34	+20·53	113·01	38·23
	28	23·03	267·16	26·10	41·14	20·28	113·06	38·12
	30	23·62	268·36	26·14	40·92	20·02	113·12	38·00
July	2	24·21	269·56	26·16	40·70	19·76	113·17	37·88
	4	24·79	270·77	26·17	40·47	19·49	113·22	37·75
	6	25·37	271·99	+26·18	+40·23	+19·22	113·25	37·62
	8	25·94	273·22	26·17	39·98	18·94	113·27	37·48
	10	26·51	274·46	26·15	39·71	18·66	113·29	37·33
	12	27·08	275·71	26·12	39·44	18·37	113·30	37·17
	14	27·65	276·97	26·08	39·15	18·07	113·31	37·01
	16	28·21	278·24	+26·02	+38·86	+17·77	113·31	36·85
	18	28·76	279·52	25·95	38·55	17·46	113·30	36·68
	20	29·30	280·80	25·86	38·25	17·15	113·29	36·51
	22	29·83	282·09	25·77	37·93	16·83	113·27	36·33
	24	30·36	283·39	25·67	37·60	16·50	113·25	36·14
	26	30·88	284·69	+25·55	+37·28	+16·17	113·21	35·95
	28	31·38	286·00	25·42	36·94	15·84	113·16	35·75
	30	31·87	287·31	25·28	36·60	15·50	113·11	35·55
Aug.	1	32·35	288·63	25·12	36·25	15·15	113·04	35·34
	3	32·83	289·96	24·95	35·89	14·80	112·96	35·13
	5	33·30	291·29	+24·76	+35·53	+14·44	112·88	34·92
	7	33·75	292·62	24·56	35·18	14·08	112·79	34·71
	9	34·19	293·95	24·35	34·82	13·72	112·69	34·49
	11	34·61	295·29	24·12	34·46	13·35	112·57	34·27
	13	35·01	296·63	23·88	34·09	12·97	112·45	34·04
	15	35·39	297·97	+23·62	+33·73	+12·59	112·32	33·81
	17	35·76	299·31	23·35	33·36	12·20	112·18	33·57
	19	36·11	300·66	23·08	32·98	11·81	112·03	33·33
	21	36·44	302·01	22·79	32·61	11·41	111·87	33·09
	23	36·76	303·36	22·49	32·23	11·01	111·70	32·85
	25	37·06	304·71	+22·17	+31·86	+10·60	111·52	32·60
	27	37·35	306·06	21·84	31·48	10·19	111·33	32·35
	29	37·61	307·40	+21·50	+31·12	+ 9·78	111·13	32·10

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Greenwich Noon.	⊙	Light Time.	Appar. Diam.	Defect of Illumination. q	Central Meridian. ω₀	Passage of Zero Meridian.			
1901.	°	m	"	"	°	h	m	h	m
June 16	119·88	11·793	6·77	0·74	95·05	18	9·09	18	48·86
18		11·921	6·70	0·73	75·71	19	28·64	20	8·43
20		12·048	6·63	0·72	56·35	20	48·24	21	28·07
22		12·174	6·56	0·71	36·97	22	7·91	22	47·77
24	123·65	12·300	6·49	0·70	17·57	23	27·64	...	
26		12·424	6·42	0·69	358·16	0	7·53	0	47·44
28		12·547	6·36	0·68	338·73	1	27·37	2	7·32
30		12·669	6·30	0·67	319·29	2	47·28	3	27·26
July 2	127·46	12·790	6·24	0·66	299·84	4	7·25	4	47·26
4		12·909	6·18	0·65	280·39	5	27·29	6	7·32
6		13·027	6·12	0·64	260·92	6	47·35	7	27·39
8		13·144	6·07	0·63	241·45	8	7·44	8	47·49
10	131·31	13·260	6·02	0·62	221·96	9	27·55	10	7·60
12		13·375	5·97	0·61	202·47	10	47·67	11	27·75
14		13·489	5·92	0·60	182·97	12	7·83	12	47·92
16		13·601	5·87	0·59	163·46	13	28·02	14	8·13
18	135·21	13·711	5·82	0.58	143·94	14	48·26	15	28·41
20		13·821	5·78	0·57	124·41	16	8·57	16	48·74
22		13·930	5·73	0·56	104·88	17	28·92	18	9·11
24		14·037	5·69	0·54	85·34	18	49·31	19	29·51
26	139·16	14·143	5·65	0·53	65·79	20	9·71	20	49·91
28		14·248	5·61	0·52	46·24	21	30·11	22	10·31
30		14·351	5·57	0·51	26·68	22	50·52	23	30·73
Aug. 1		14·453	5·53	0·50	7·12	...		0	10·94
3	143·15	14·553	5·49	0·49	347·56	0	51·15	1	31·37
5		14·652	5·45	0·49	328·00	2	11·59	2	51·82
7		14·750	5·41	0·48	308·43	3	32·06	4	12·30
9		14·847	5·38	0·47	288·86	4	52·55	5	32·80
11	147·20	14·943	5·34	0·46	269·28	6	13·06	6	53·32
13		15·037	5·31	0·45	249·69	7	33·58	8	13·84
15		15·129	5·27	0·45	230·11	8	54·10	9	34·35
17		15·220	5·24	0·44	210·53	10	14·61	10	54·87
19	151·30	15·310	5·21	0·43	190·94	11	35·12	12	15·38
21		15·399	5·18	0·42	171·36	12	55·64	13	35·89
23		15·487	5·15	0·42	151·78	14	16·15	14	56·41
25		15·573	5·12	0·41	132·20	15	36·67	16	16·93
27	155·45	15·658	5·09	0·40	112·62	16	57·19	17	37·46
29		15·742	5·07	0·39	93·03	18	17·72	18	57·98

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Greenwich Noon.	P.	L−O.	B.	Λ−L.	*B*.	Q.	E.
1901.	°	°	°	°	°	°	°
Aug. 31	37·86	308·75	+21·14	+30·75	+ 9·36	110·91	31·85
Sept. 2	38·08	310·09	20·77	30·39	8·94	110·68	31·59
4	38·29	311·44	20·38	30·02	8·51	110·44	31·33
6	38·48	312·79	19·99	29·65	8·08	110·19	31·07
8	38·64	314·13	19·58	29·29	7·65	109·93	30·81
10	38·78	315·47	+19·16	+28·93	+ 7·22	109·66	30·55
12	38·88	316·80	18·72	28·59	6·78	109·37	30·28
14	38·96	318·11	18·26	28·26	6·33	109·07	30·01
16	39·01	319·41	+17·79	+27·95	+ 5·88	108·76	29·74

This ephemeris has been computed with the same constants as those for the last two oppositions. The position of the north pole of *Mars* is assumed to be R.A. 317°·17, N.P.D. 37°·42 at the beginning of the ephemeris, and R.A. 317°·18, N.P.D. 37°·41 at the end of it. These values are those deduced by Struve from observations of the satellites. I have continued to use them in the absence of any suggestions to the contrary.

P. denotes the position angle of the axis of *Mars*; L−O+180° the Right Ascension of the Earth referred to the plane of *Mars*' equator, and reckoned from O, the point of the vernal equinox of *Mars*' northern hemisphere; Λ−O+180°, the corresponding quantity for the Sun; B, *B*, the declinations of the Earth and Sun reckoned from the plane of *Mars*' equator; Q, the position angle of the greatest defect of illumination; *q*, the amount of the greatest defect of illumination; E, the areocentric angle between the Earth and Sun.

Thus Λ−L is the angle between the meridians of *Mars* which are central to the Earth and to the Sun; the point where an image of the Sun should be looked for is distant $\frac{1}{2}(\Lambda-L)$ in longitude from the centre of the disc, on the side towards the fully illuminated limb, and is in areocentric latitude $\frac{1}{2}(B+\mathit{B})$.

The column ⊙, given now for the first time, is the areocentric longitude of the Sun referred to the plane of *Mars*' orbit, and reckoned from O, the point of the vernal equinox of *Mars*' northern hemisphere. The object of this column is to ascertain readily the season on *Mars*. ⊙ = 0° corresponds to March 20 on the Earth, ⊙ = 30° to April 20, and so on.

The diameter of the planet at distance unity is assumed (as before) to be 9″·60, that used in the *Nautical Almanac* being 9″·36.

The zero meridian and period of rotation have been carried on unchanged from Mr. Marth's last ephemeris, the assumed sidereal rotation in 24 hours being 350°·89202. I should be glad to have observations of the transits of any well-determined

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Greenwich Noon.	⊙	Light Time.	Appar. Diam.	Defect of Illumination. q	Central Meridian. ω_0	Passage of Zero Meridian.			
1901.	°	m	"	"	°	h	m	h	m
Aug. 31		15·824	5·04	0·38	73·45	19	38·24		
								20	18·51
Sept. 2		15·905	5·02	0·37	53·86	20	58·77		
								21	39·02
4	159·66	15·985	4·99	0·37	34·28	22	19·27		
								22	59·52
6		16·063	4·97	0·36	14·71	23	39·77		
								...	
8		16·140	4·94	0·35	355·13	0	20·02		
								1	0·26
10		16·216	4·92	0·34	335·56	1	40·51		
								2	20·75
12	163·93	16·292	4·90	0·33	315·98	3	1·00		
								3	41·24
14		16·367	4·88	0·33	296·41	4	21·48		
								5	1·72
16		16·440	4·86	0·32	276·84	5	41·96		

points across the centre of the disc communicated to me, as a check on the accuracy of the values assumed in the ephemeris.

The last two columns contain the Greenwich Mean Time of transit of the zero meridian across the centre of the disc, the times being given for the intermediate days as well as for those given in the date column. They are tabulated to $0^{m}\cdot01$, but the last figure given is only approximate.

The quantities are to be interpolated directly from the ephemeris for the time for which they are required, the equation of light having been already applied.

The vernal equinox of *Mars'* northern hemisphere occurs 1900 September $24^{d}\cdot3$ and the summer solstice 1901 April $11^{d}\cdot1$.

Benvenue, 55 *Ulundi Road, Blackheath, S.E.:*
1900 *January* 10.

Erratum in Prof. E. W. Brown's paper, vol. lx. p. 124, lines 18, 19,

for "parts of the ratio of the mean motions,"
read "mean motions of the perigee and node."